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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,078

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Craig A. Olbrich

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INTELLECTUAL PROPERTY ADMINISTRATION

FORT COLLINS, CO 80527-2400

EXAMINER

SAID, MANSOUR M

ART UNIT

PAPER NUMBER

2629

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No. 10/726,078	Applicant(s) OLBRICH, CRAIG A.	
	Examiner MANSOUR M. SAID	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35-37 is/are allowed.
- 6) ☒ Claim(s) 1-32 and 38-42 is/are rejected.
- 7) ☒ Claim(s) 33 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/1/03</u> . | 6) <input type="checkbox"/> Other: _____  |

DETAILED ACTION

***Claim Rejections - 35 USC § 102***

**1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

**A person shall be entitled to a patent unless –**

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

**2. Claims 1-32 and 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen (6,275,214 B1).**

**As to claim 1**, Hansen teaches a system for a computing device (compute, (figure 1, (10)): an image-capturing mechanism capable of capturing images (video camera, (figure 1, (14)) (figures 1-2 and column 3, lines 40-67), each image including at least one corner (corners, (figure 1, (C1-C4)) of a display communicatively coupled to the computing device (figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18); and, a controller (optical pointer, (figure 1, (24)) to determine at least one of positioning and relative movement for a graphical-user interface (cursor, (figure 1, (22)) element displayed on the display (display, (figure 1, (screen, (16)) , based on the images (image, (figure 1, (18)) captured by the image-capturing mechanism (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 2**, Hansen teaches wherein at least one of the images includes the display completely (figures 1-3, column 3, lines 1-67 and column 4, lines 26-67).

**As to claim 3**, Hansen wherein at least one of the images includes a center of the display (figure 1, (26)) and column 3, lines 40-67).

**As to claims 4 and 18**, Hansen teaches wherein the controller (optical pointer, (figure 1, (24)) is to determine relative movement for the graphical-user interface element (cursor, (figure 1, (22)) based on a change in position of the at least one corner of the display between a first image and a second image captured by the image-capturing mechanism (figures 1-3, column 3, lines 20-67 and column 4, line 42 through column 5, lines 1-18).

**As to claims 5 and 19**, Hansen teaches wherein the controller is to determine positioning for the graphical-user interface element (cursor, (figure 1, (22)) based on a position of the at least one corner (corners, (figure 1, (C1-C4)) of the display within an image captured by the image-capturing mechanism relative to a field of view of the image (figures 1-3, column 3, lines 20-67 and column 4, line 42 through column 5, lines 1-18).

**As to claims 6 and 20**, Hansen teaches wherein the display is a brightest object within each image (figures 1-3 and column 3, lines 20-62).

**As to claim 7**, Hansen teaches wherein the computing device is at least one of: a desktop computer, a laptop computer, a handheld computing device, a personal digital assistant (PDA) device, an audio-visual device, and a visual-only device (figure 1 and column 3, lines 5-67).

**As to claim 8**, Hansen teaches wherein the image-capturing mechanism (video camera, (figure 1, (14)) is at least one of a camera device and a photosensitive device (figure 1 and column 3, lines 4-67).

**As to claim 9**, Hansen teaches wherein the display comprises at least one of: a cathode-ray tube (CRT) device; a liquid-crystal display (LCD) device; a flat-panel display (FPD) device; a plasma display device; and, an object on which images are projected by a projection display device (figures 1-3 and column 3, lines 5-63).

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**As to claim 10**, Hansen teaches wherein the object on which images are projected by the projection display device (projector, (figure 1, (12))) is a screen (figures 1-3 and column 3, lines 1-67).

**As to claim 11**, Hansen teaches wherein the display (display, (figure 1, (20))) is part of the computing device (figure 1 and column 3, lines 1-40).

**As to claim 12**, Hansen teaches wherein the graphical-user interface element comprises a graphical-user interface pointer (figures 1-3 and column 3, lines 5-60 and column 4, lines 1-26).

**As to claim 13**, Hansen teaches wherein the controller is part of the computing device (figure 1 and column 3, lines 20-40).

**As to claim 14**, Hansen teaches wherein the controller comprises software running on the computing device (figures 1-3, column 3, lines 22-61 and column 7, lines 44-67).

**As to claim 15**, Hansen teaches wherein the controller comprises hardware (figure 1 and column 9, lines 1-25).

**As to claim 16**, Hansen teaches a pointing device for a computing device (compute, (figure 1, (10)): an image-capturing mechanism capable of capturing images (video camera, (figure 1, (14))) (figures 1-2 and column 3, lines 40-67), each image including at least one corner (corners, (figure 1, (C1-C4))) of a display communicatively coupled to the computing device (figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18); and, a communications mechanism to communicatively couple the pointing device to the computing device (figure 1, column 3, lines 5-67 and column 9, lines 1-25), wherein at least one of positioning and relative movement for a graphical-user interface element displayed on the

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display is determined based on the images captured by the image-capturing mechanism (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 17**, Hansen teaches wherein at least one of the images includes the display completely, and at least one of the images includes a center of the display (figures 1-3, column 3, lines 1-67 and column 4, lines 26-67).

**As to claim 21**, Hansen teaches wherein the communications mechanism is to communicate the images captured by the image-capturing mechanism to the computing device (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25)., wherein the computing device is to determine at least one of positioning and relative movement for the graphical-user interface element displayed on the display based on the images captured by the image-capturing mechanism (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 22**, Hansen teaches a controller to determine at least one of positioning and relative movement for the graphical-user interface element displayed on the display based on the images captured by the image-capturing mechanism (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25)., wherein the communications mechanism is to communicate information regarding at least one of positioning and relative movement for the graphical-user interface element as determined by the controller to the computing device (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 23**, Hansen teaches further comprising a housing within which the image-capturing mechanism and the communications mechanism are at least partially disposed (figures

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1-3, column 3, lines 5-67 and column 9, lines 1-25).

**As to claim 24**, Hansen teaches one or more buttons disposed within the housing (figures 1-3 and column 9, lines 1-25).

**As to claim 25**, Hansen teaches wherein the one or more buttons comprises an activation button that is actuated to cause the image-capturing mechanism to capture the images (figures 1-3, column 3, lines 5-67 and column 9, lines 1-25).

**As to claim 26**, Hansen teaches wherein the image-capturing mechanism is to capture the images while the activation button remains actuated until the activation button is released (figures 1-3, column 3, lines 5-67 and column 9, lines 1-25).

**As to claim 27**, Hansen teaches wherein the image-capturing mechanism is to capture the images upon the activation button being actuated and released, and is to stop capturing the images upon the activation button being actuated and released again (figures 1-3, column 3, lines 5-67 and column 9, lines 1-25).

**As to claim 28**, Hansen teaches wherein the one or more buttons comprises one or more action buttons that are actuated to cause actions relative to graphical-user interface elements displayed on the display (figures 1-3, column 3, lines 5-67 and column 9, lines 1-25).

**As to claim 29**, Hansen teaches a pointing device (optical pointer, (figure 1, (24)) for a computing device (compute, (figure 1, (10)) comprising: means for capturing images of at least one corner (corners, (figure 1, (C1-C4)) of a display communicatively coupled to the computing device (figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18); and, means for determining relative movement for a graphical-user interface element displayed on the display based on a change in position of the at least one corner of the display between a first

image and a second image captured by the image-capturing mechanism (figures 1-3, column 3, lines 20-67 and column 4, line 42 through column 5, lines 1-18).

**As to claim 30**, Hansen teaches a pointing device (optical pointer, (figure 1, (24))) for a computing device (compute, (figure 1, (10))) comprising: means for capturing images of at least one corner (corners, (figure 1, (C1-C4))) of a display communicatively coupled to the computing device (figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18; and, means for determining positioning for a graphical-user interface element displayed on the display based on a position of the at least one corner of the display within an image captured by the image-capturing mechanism relative to a field of view of the image (figures 1-3, column 3, lines 20-67 and column 4, line 42 through column 5, lines 1-18).

**As to claim 31**, Hansen teaches a method comprising: capturing a first image of at least one corner (corners, (figure 1, (C1-C4))) of a display communicatively coupled to a computing device (figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18); capturing a second image of the at least one corner (corners, (figure 1, (C1-C4))) of the display; determining an amount and a direction of movement of the at least one corner of the display between the first image and the second image (figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18); and, causing a graphical-user interface element displayed on the display by the computing device to move based on the amount and the direction of the movement of the at least one corner of the display (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 32**, Hansen teaches further comprising a user moving a pointing device having an image-capturing mechanism and communicatively coupled to the computing device



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between the image-capturing mechanism capturing the first image and the second image in a direction and by an amount at which the user desires to have the graphical-user interface element moved (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 38**, Hansen teaches a method comprising: providing an image-capturing mechanism of a pointing device capable of capturing images(video camera, (figure 1, (14)) (figures 1-2 and column 3, lines 40-67), each image including at least one corner (corners, (figure 1, (C1-C4)) of a display communicatively coupled to a computing device(figures 1-2, column 3, lines 20-65 and column 4, line 41 through column 5, line 18); and, providing a controller of the pointing device capable of determining at least one of positioning and relative movement for a graphical-user interface element displayed on the display, based on the images captured by the image-capturing mechanism (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

**As to claim 39**, Hansen teaches providing a communications mechanism of the pointing device capable of communicating at least one of positioning and relative movement for the graphical-user interface element from the controller to the computing device (figures 1-2, column 3, lines 1-67, column 4, lines 1-67, column 8, lines 10-67 and column 9, lines 1-25).

40. The method of claim 38, further comprising providing an activation button of the pointing device that is capable of being actuated to cause the image-capturing mechanism to capture the images.

**As to claim 41**, Hansen teaches further comprising providing one or more action buttons that are capable of being actuated to cause actions relative to graphical-user interface elements

displayed on the display (figures 1-3 and column 9, lines 1-25).

**As to claim 42**, Hansen teaches further comprising providing a housing within which the image-capturing mechanism and the controller are at least partially disposed (figures 1-3, column 3, lines 5-67 and column 9, lines 1-25).

***Allowable Subject Matter***

**3. Claims 35-37 are allowed.**

4. The following is an examiner's statement of reasons for allowance: "capturing an image of at least a center of a display communicatively coupled to a computing device; determining a location of at least the center of the display within the image; determining an offset amount and an offset direction between the location of at least the center of the display within the image and a center of the image; and, causing a graphical-user interface element to be displayed on the display by the computing device at a position based on the offset amount and the offset direction between the location of at least the center of the display within the image and the center of the image".

**5. Claims 33-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The following is a statement of reasons for the indication of allowable subject matter:

**As to claim 33**, "wherein determining the amount and the direction of movement of the at least one corner of the display between the first image and the second image comprises:

determining a first location of the at least one corner of the display in the first image;  
determining a second location of the at least one corner of the display in the second image; and,  
determining the amount and the direction of movement of the at least one corner of the display  
from the first location in the first image to the second location in the second image”.

**As to claim 34**, “wherein causing the graphical-user interface element displayed on the display by the computing device to move based on the amount and the direction of the movement of the at least one corner of the display comprises causing the graphical-user interface element to move in a direction opposite to the direction of the movement of the at least one corner of the display by an amount relative to a size of the display proportional to the amount of the movement of the at least one corner of the display relative to a size of the image”.

### Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barrus (5,914,783) teaches an audio/visual computer presentation system.

Morrison et al. (6,803,906 B1) teaches a passive touch system and method of detecting user input.

Lin (6,346,933 B1) teaches an interactive display presentation system.

Stuerzlinger (7,193,608 B2) teaches a collaborative pointing devices.

Platzker et al. (5,528,263) teach an interactive projected video image display system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mansour M. Said whose telephone number is 571-272-7679. The

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examiner can normally be reached on Monday through Thursday from 8:30-6:00 P.M. The examiner can also be reached on alternate Friday from 8:30 a.m. to 5:00 p.m. EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

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Washington, D.C. 20231


or faxed to: 571-273-8300 (for Technology Center 2600 only)

Hand-delivered responses should be brought to the Customer Service Window at the Randolph Building, 401, Dulany Street, Alexandria, VA 22314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mansour M. Said

1/17/08



RICHARD HJERPE  
SUPERVISOR, ART UNIT 2629  
JAN 17 2008